Amendments to the Claims

The listing of claims will replace all prior versions, and listings of claims in the application.

1-20. (Cancelled)

21.   (Currently Amended) A system for producing a pulse code modulation (PCM) signal, comprising:

a first filter configured to produce an input signal I(n) from a secondary audio program (SAP) signal;

~~a frequency modulator (FM) including,~~

a second filter that generates a quadrature-phase signal Q(n) from the input signal I(n)[[,]]~~;~~

a FM ~~device~~ demodulator configured to generate a ~~frequency modulated signal FM(n) from the input signal I(n) and the quadrature-phase signal Q(n)~~ FM demodulated signal substantially equal to Z(n)/X(n), wherein Z(n) and X(n) are functions of I(n) and Q(n), the FM demodulator including a denominator device that estimates a value 1/X(n) based at least in part on a prior estimated value of 1/X(n);[[,]] and

a third filter configured to produce the ~~pulse code modulation (PCM)~~ PCM signal from the [[FM(n)]] signal substantially equal to Z(n)/X(n).

22.   (Currently Amended) The system of claim 21, wherein ~~the FM(n) signal~~ Z(n) is substantially equal to $[I(n)Q'(n)-I'(n)Q(n)]$ and X(n) is substantially equal to $[I^2(n)+Q^2(n)]$ ~~equals $[I(n)Q'(n)-I'(n)Q(n)]/[I^2(n)+Q^2(n)]$~~.

23.   (Original) The system of claim 21, wherein the SAP signal is a constant magnitude signal, a sine wave, or a cosine wave.

24.   (Original) The system of claim 21, wherein the first filter is a band pass filter.

25. (Original) The system of claim 21, wherein the second filter is a Hilbert filter.

26-31. (Cancelled)

32. (New) The system of claim 21, wherein the denominator device estimates the value $1/X(n)$ based at least in part on the prior estimated value of $1/X(n)$ plus an error value.

33. (New) The system of claim 32, wherein the error value is substantially equal to $[1-X(n)/X(n-1)]$.

34. (New) The system of claim 33, wherein the error value is scaled before being added to the prior estimated value of $1/X(n)$.